



Compartment Review Presentation

Gaylord Forest Management Unit

Compartment 52003

Entry Year 2022

Acreage: 1,479

County Otsego

Management Area: AuSable Outwash

Revision Date: 2020-03-11

Stand Examiner: Trevor Kubitskey

Legal Description:

T29N, R1W, Sections 13, 14, & 15.

Identified Planning Goals:

To provide for the protection, integrated management and responsible use of a healthy, productive, and undiminished forest resource base for the social, recreational, environmental, and economic benefit of the State Of Michigan.

Soil and topography:

The major soil type is Roselawn-Rubicon Sand (80%) with the remaining 20% being Rifle Peat-Carbondale Muck and Saugatuck-Newton Sand. Drainage is extremely rapid in 80% of the compartment, while 20% of the water table is near the surface or 1 to 3 feet below surface. Terrain is level to 15% slopes with pited outwash plains and subdued moraines.

Ownership Patterns, Development, and Land Use in and Around the Compartment:

Ownership around the compartment is fairly even between private and state. The state land surrounding the compartment is mostly located to the Northwest, South and East. There is a private subdivision within the compartment that surrounds Caulkins Lake. Most of the land use is recreational; however there are scattered Gas Wells located around the compartment with two Gas Facilities located off Old State Rd.

Unique Natural Features:

The northwest corner of section 14 and northeast corner of section 15 were classified as part of a pine barren natural community. The jack pine stand in this area has been treated as a pine barren which is a fire-dominated, coniferous savanna with scattered trees. The ground cover for this community includes Hill's Thistle, Pale Agoseris, Rough Fescue, and Alleghany Plum.

Archeological, Historical, and Cultural Features:

None known.

Special Management Designations or Considerations:

A special management designation is placed on the pine barren natural community. This management is described in detail by the Michigan Natural Features Inventory (MNFI) summary.

Watershed and Fisheries Considerations:

The headwaters of Big Creek begin in section 14, and special management considerations will be given to protect the water quality of Big Creek which drains into the Au Sable River. Gee Lake also resides adjacent to the compartment. Caulkins Lake and Gee Lake are also in the vicinity of the area. An appropriate buffer should be maintained adjacent to the streams and lakes in this compartment.

Wildlife Habitat Considerations:

This compartment contains remnant pine barrens communities which will be managed to maintain or improve current characteristics related to that rare community, and therefore rare plant and animal species associated. The compartment is adjacent to designated habitat for Kirtland's warbler. Other areas will be managed for a wide range of cover types as this compartment is quite diverse in that aspect. There is good access to these multiple cover types and habitats which provides opportunities for a wide variety of wildlife-related recreation.

Mineral Resource and Development Concerns and/or Restrictions

Active sand/gravel operations are located approximately four miles to the east, and there is good sand & gravel potential within the compartment on the uplands. The compartment has been developed for Antrim Shale gas production and all state-owned mineral rights in the compartment are currently under lease and in production. There is currently low potential for any additional oil & gas development in this area in the near future. There is no known metallic mineral potential in this part of the state.

Vehicle Access:

Vehicle access is very good throughout the compartment. With scattered state forest roads as well as a seasonal county road (Spectacle Lake Trl), there is good access to the interior of the compartment.

Survey Needs:

The majority of the compartment has been surveyed in the past due to active management activities. There are two small private parcels within the compartment that will need survey work done to ensure accuracy of future management of surrounding state owned land.

Recreational Facilities and Opportunities:

With a designated Equestrian and Hiking trail and the Crapo Creek ATV Trail there are a variety of opportunities present. As well as increased ORV use, the connectivity of roads within the compartment provides access for multi-use activities. Hunting of deer, turkey, and upland birds is popular within the area. Gee Lake provides fishing opportunities with a natural-type boat launch with a small parking area.

Fire Protection:

The majority of the compartment is not a high-risk area for wildfires. However, with the network of roads, access to an area for fire suppression would be good.

Additional Compartment Information:

The following reports from the Inventory are attached:

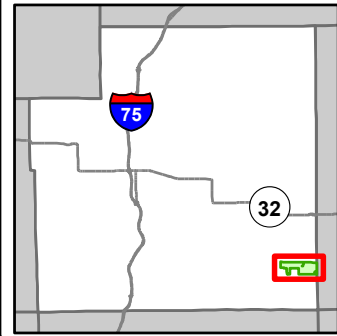
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

The following information is displayed, where pertinent, on the attached compartment maps:

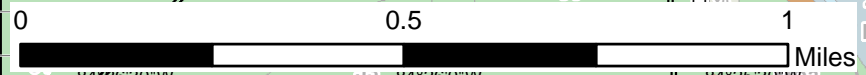
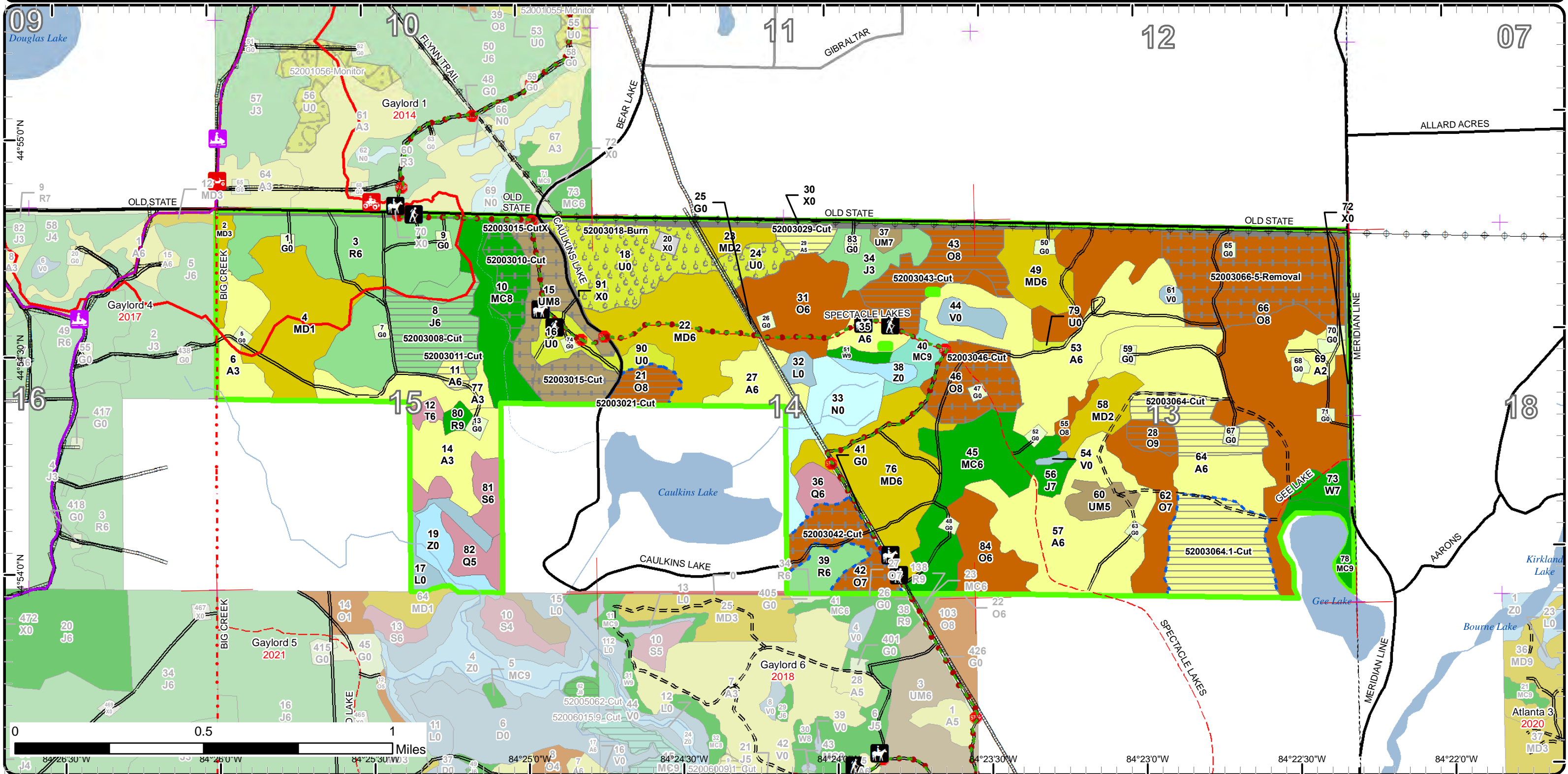
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 3
 T29N, R01W, Sec. 13-15
 County: Otsego
 Unit: Gaylord
 Mgmt Area: AuSable Outwash
 YOE: 2022
 Acres: 1,480 GIS Calculated
 Examiner: Trevor Kubitskey
 Map Revised: 11/20/2020
 Map Phase: Post-Review

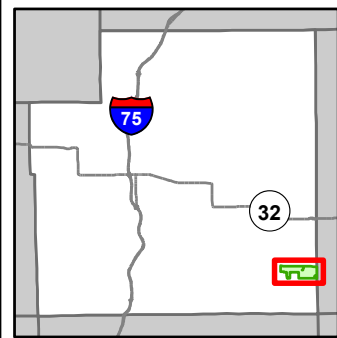


- Miris Corners
- Remonumented Section Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Paved Road
- Private - Dirt / Gravel Road
- Hiking Trails
- Horse Trails
- ORV Trails
- ORV Routes
- Snowmobile Trails
- Designated Hiking Trails
- Designated Equestrian Trails
- Designated ATV
- Designated ORV Route
- Designated Snowmobile Trails
- Sign
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Pipeline
- Powerline
- Compartment Boundary
- Treatments with Site Conditions
- Clearcut (w/Reserves)
- Harvest, Overstory Removal
- Prescribed Burn
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 110 - Low Intensity Urban
- 122 - Roads/Parking Lot



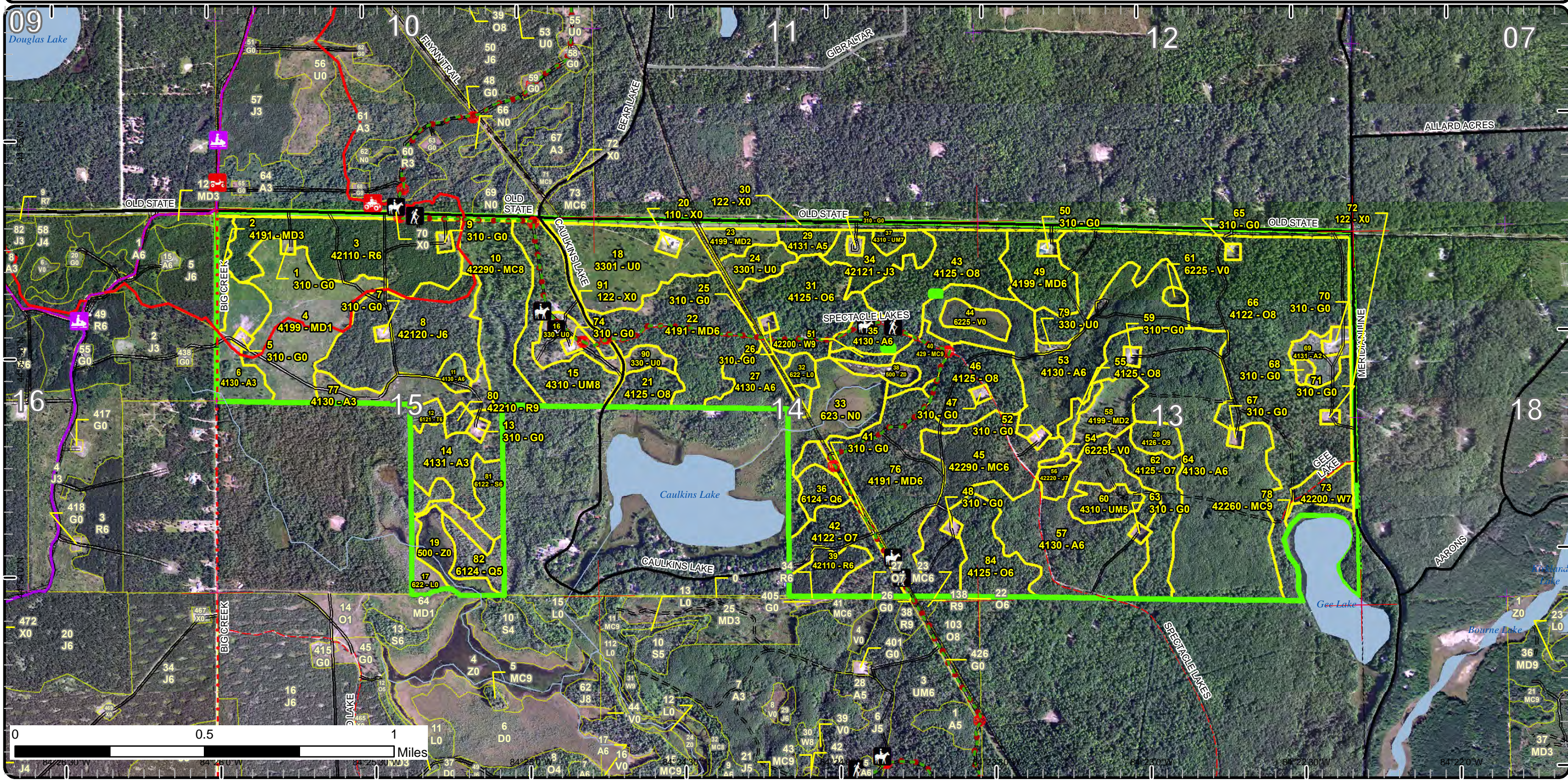
84°26'30"W 84°25'00"W 84°23'30"W 84°22'00"W 84°20'00"W

Stand Boundary Map



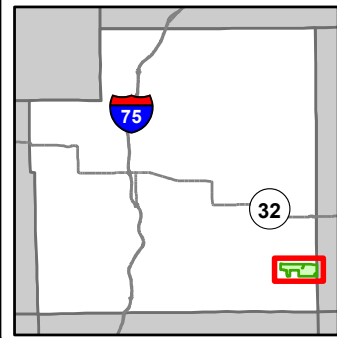
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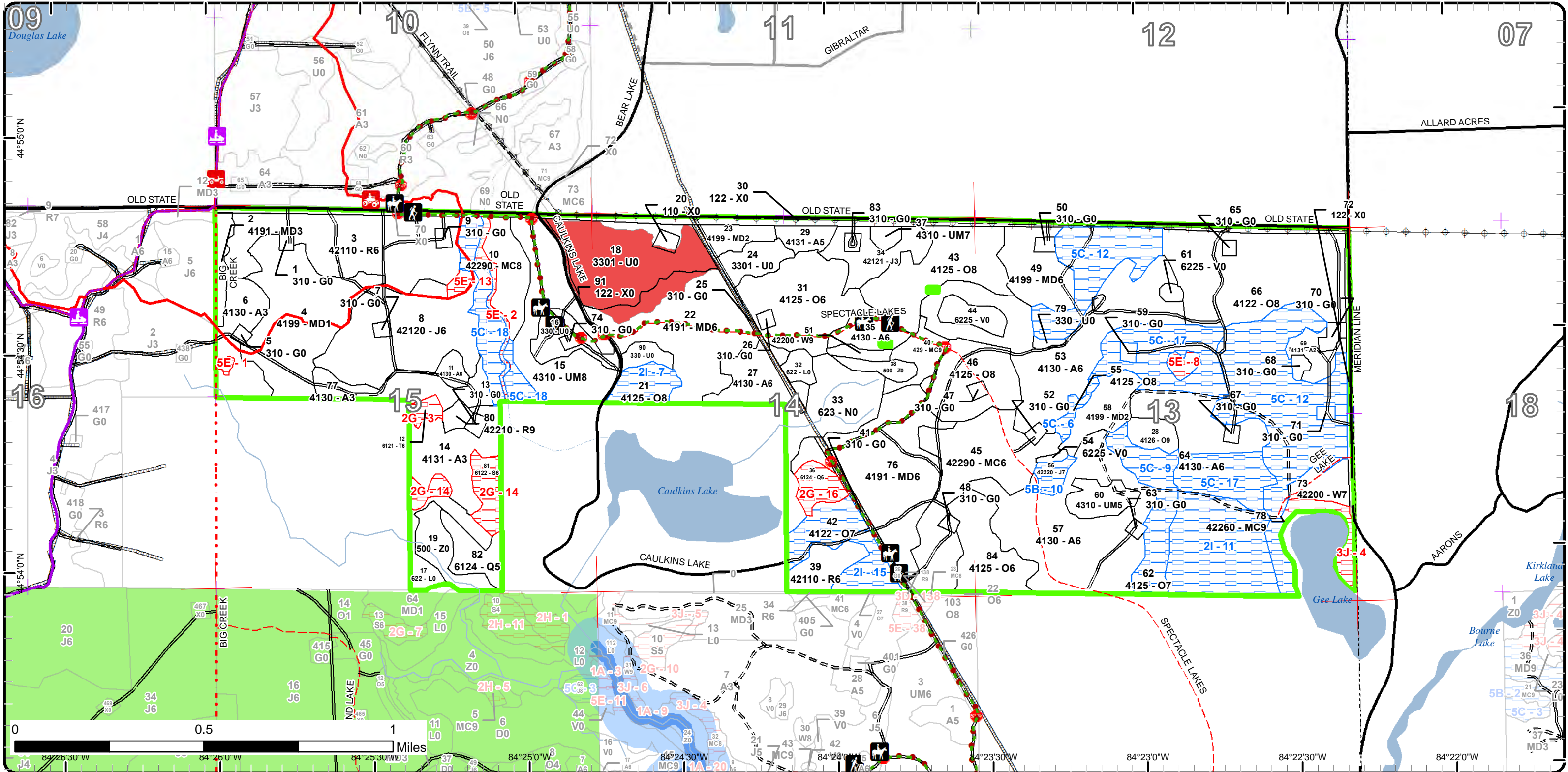


Special Conservation Areas

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- Sign
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Pipeline
- Powerline
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 2I: Survey needed
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- Ecological Reference Areas
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Kirtland Warbler Habitat
- Cold Water Streams



Report 1 – Total Acres by Cover Type and Age Class

Gaylord Mgt. Unit

Compartment 3

Year of Entry 2022

Trevor Kubitskey : Examiner



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	47	24	76	84	120	6	0	0	0	0	0	0	0	0	0	0	0	357
Bog	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Herbaceous Openland	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
Jack Pine	0	0	15	0	0	54	0	4	0	0	0	0	0	0	0	0	0	0	73
Low-Density Trees	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67
Lowland Conifers	0	0	0	0	0	0	0	0	10	0	8	0	0	0	0	0	0	0	18
Lowland Shrub	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	13
Marsh	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
Mixed Upland Deciduous	0	73	6	0	109	0	0	0	0	0	0	0	0	0	0	0	0	20	208
Natural Mixed Pines	0	0	0	0	48	0	0	0	0	0	8	0	41	0	0	0	0	0	97
Oak	0	0	0	0	62	0	0	0	0	69	202	0	0	0	0	0	0	26	358
Red Pine	0	0	0	0	55	0	0	12	3	0	0	0	0	0	0	0	0	0	70
Tamarack	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
Upland Conifers	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	9
Upland Mixed Forest	0	0	0	0	10	0	0	0	0	0	39	0	0	0	0	0	0	3	52
Urban	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41
Water	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
White Pine	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	3	11
Total	211	120	45	76	368	174	6	16	24	78	270	0	41	0	0	0	0	52	1480



Report 2 – Treatment Summary

Gaylord Mgt. Unit

Year of Entry: 2022

Acres of Harvest

Compartment 3

Total Compartment Acres: 1,479

Commercial Harvest - 245
 Harvests with Site Condition - 76
 Next Step Harvest - 0
 Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	75	0	0	0	0	0	0	0	0	75
Jack Pine	28	0	0	0	0	0	0	0	0	28
Natural Mixed Pines	0	0	0	0	0	15	0	0	0	15
Oak	50	0	0	0	0	114	0	0	0	164
Upland Mixed Forest	0	0	0	0	0	39	0	0	0	39
Total	153	0	0	0	0	169	0	0	0	322

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	322	0	0	0	51	0	0	0	0	372
Next Step	0	67	33	0	0	67	316	0	0	483
Total	322	67	33	0	51	67	316	0	0	855



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
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Approved Treatments:

8	52003008-Cut	28.2	42120 - Planted Jack Pine	Poletimber Well	44	81-110	Harvest	Clearcut with Retention	4131 - Aspen, Oak	Even-Aged	No
<p><u>Prescription</u> Final Harvest 2" DBH with minimum retention. Restrict to winter harvest for ensuring dormancy within oak and reducing issues with oak wilt.</p> <p><u>Specs:</u> Spread tops to try to encourage cone opening and natural seed establishment. Retention has been identified on the north side of the ORV trail.</p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> A mix of aspen, oak, cherry, and jack pine that meet minimum stocking requirements. Expect a larger influence of aspen, oak regeneration</p> <p><u>Regen:</u> with patchy jack pine establishment. Minimum stocking, and scattered regen is OK.</p> <p><u>Other</u> Add oak seedling/sapling protection specs, wildlife shrub protection specs as well as ORV trail protection specs into sale.</p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											
10	52003010-Cut	15.3	42290 - Natural Mixed Pine	Sawtimber Medium	118	51-80	Harvest	Overstory Removal	4139 - Aspen, Mixed Deciduous	Even-Aged	No
<p><u>Prescription</u> Final harvest all trees 6" DBH and above. Mark clumps of 3-5 overstory pines and oak if possible at a rate of 1 clump per 5 acres. Put</p> <p><u>Specs:</u> erosion and rutting protection specs into sale. Winter cut only to minimize issues with soft soils. If any additional wet spots are found during sale prep, use red line to exclude those from sale area.</p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Release of understory species that results in moderately stocked aspen stand with inclusions of red maple, oak and other mixed conifers.</p> <p><u>Regen:</u></p> <p><u>Other</u> Per fisheries request, due to only removing overstory, a 25' buffer from the stream will be maintained during sale prep.</p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											
11	52003011-Cut	3.8	4130 - Aspen	Poletimber Well	44	81-110	Harvest	Clearcut	413 - Aspen	Even-Aged	No
<p><u>Prescription</u> Final harvest 2" dbh and up. No retention due to small stand size.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Aspen with a minor component of oak, red maple, cherry and mixed conifers.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											

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Treatment ID	Treatment Name	Acres	Stand Cover Type	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
15	52003015-Cut	15.0	4310 - Pine, Oak Mix	Sawtimber Medium	94	51-80	Harvest	Overstory Removal	4319 - Mixed Upland Forest	Even-Aged	No
<p><u>Prescription Specs:</u> Overstory removal taking all merchantable red maple, black oak and aspen. Leave all pine and white oak. Consider marking any pine during sale prep that may help with operability during harvest. Apply damaged timber spec, Oak Wilt spec., seedling/sapling protection specs. and Recreational Trail protection specs.</p> <p><u>Next Step Treatments:</u></p> <p><u>Acceptable Regen:</u> Any mix of red maple, oak, aspen or pine that meet requirements for a moderately stocked stand.</p> <p><u>Other Comment:</u> Existing blue line is present. Verify accuracy before use. Existing skid trails should provide enough maneuverability.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											
15	52003015-CutX	24.4	4310 - Pine, Oak Mix	Sawtimber Medium	94	51-80	Harvest	Overstory Removal	4319 - Mixed Upland Forest	Even-Aged	No
<p><u>Prescription Specs:</u> Cut any trees 6" DBH and up. Mark to leave clumps of 3-5 mixed pine and healthy oak at a rate of 1 clump per 5 acres for diversity, seed and mast production. Follow DNR policy and procedures for protecting the rec trail during harvest. Add rec trail protection specs. Communicate with rec specialist to ensure no harvesting operations take place during planned event days.</p> <p><u>Next Step Treatments:</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Acceptable Regen:</u> Any combination of aspen, oak, red maple, cherry, birch or mixed conifers that meet minimum stocking requirements.</p> <p><u>Other Comment:</u> Add sapling/seedling protection specs into sale along with oak wilt specs. There is a utility line that runs through stand as well. Use appropriate protection specs for the utilities as necessary.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											
18	52003018-Burn	41.5	3301 - Low Density Deciduous Trees	Nonstocked		Unspecified	Burn	Opening	3302 - Low Density Conifer Trees		No
<p><u>Prescription Specs:</u> Assess for a prescribed burn once per decade to maintain a natural pine barren community. Protect natural grasses, hills thistle, and other plants by minimizing furrowing.</p> <p><u>Next Step Treatments:</u> Monitoring, Prescribed Burn</p> <p><u>Acceptable Regen:</u> Pine Barrens.</p> <p><u>Other Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2025</p>											
21	52003021-Cut	10.0	4125 - Black, N. Pin Oak	Sawtimber Medium	94	51-80	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	No
<p><u>Prescription Specs:</u> Final Harvest 2" dbh and up using minimum retention. Do not cut Balsam Fir, Red or White Pine. Oak Wilt specs will apply. Retention should be placed in a manor that could help address visual concerns from Caulkins Lake.</p> <p><u>Next Step Treatments:</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Acceptable Regen:</u> Any mix of aspen, red maple, oak, cherry, birch or mixed conifers that result in a moderately to fully stocked stand.</p> <p><u>Other Comment:</u> Survey will be needed to help establish corner to the east. There are utilities along Caulkins Lake Rd which will need to be addressed and protected during sale prep.</p> <p><u>Site Condition</u> Survey Needed</p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>											



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
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24 52003024-Burn	9.1	3301 - Low Density Deciduous Trees	Nonstocked		Unspecified	Burn	Opening	3302 - Low Density Conifer Trees		No
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Prescription Assess for a prescribed burn to occur once per decade to maintain a natural pine barren community. Protect native grasses, hills thistle, and other plants identified by MNFI by minimizing furrows and soil disturbance.

Next Step Monitoring, Prescribed Burn
Treatments:

Acceptable Pine Barren.
Regen:

Other
Comment:

Site Condition

Proposed Start Date: 10/1 /2025

28 52003028-Cut	6.5	4126 - White, Black, N. Pin Oak	Sawtimber Well	85	111-140	Harvest	Clearcut	4139 - Aspen, Mixed Deciduous	Even-Aged	No
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Prescription Final Harvest 2" dbh and up. No retention due to small stand size. Oak Wilt specification will apply.

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Any combination of deciduous species such as birch, cherry, red maple, aspen, Black and White Oak that meet minimum stocking requirements. This can include a minor component of Red and White Pine. Expect aspen to dominate.

Other
Comment:

Site Condition

Proposed Start Date: 10/1 /2021

29 52003029-Cut	5.8	4131 - Aspen, Oak	Poletimber Medium	55	81-110	Harvest	Clearcut	4131 - Aspen, Oak	Even-Aged	No
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Prescription Final Harvest 2" DBH and up. No retention due to small acreage. Add drum log spec to sale.

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Predominantly aspen and oak with a component of red maple, cherry, birch and mixed conifers that meet minimum stocking requirements.

Other Adjacent to Rx Burn, ensure slash is scattered an appropriate distance away from edge of stand 24.
Comment:

Site Condition

Proposed Start Date: 10/1 /2021



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
42 52003042-Cut	23.3	4122 - Oak, Pine	Sawtimber Poor	85	51-80	Harvest	Overstory Removal	4199 - Other Mixed Upland Deciduous	Two-Aged	No
<p><u>Prescription</u> Overstory removal harvesting all trees over 6" DBH. Mark to leave clumps of 3-5 healthy mixed oak and pine at a rate of 1 clump per 5 acres for diversity, seed production and mast..</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable Regen:</u> A mix of Oak, Red maple, Aspen, birch or cherry and a minor component of mixed conifers that meet minimum stocking criteria.</p> <p><u>Other Comment:</u> Add Seedling/Sapling protection specs into sale as well as Recreation Trail protection specs. Ensure nest protection specs are put into sale.</p> <p><u>Site Condition</u> Survey Needed</p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>										
43 52003043-Cut	33.4	4125 - Black, N. Pin Oak	Sawtimber Medium	86	51-80	Harvest	Clearcut with Retention	4131 - Aspen, Oak	Even-Aged	No
<p><u>Prescription</u> Final Harvest 2" DBH and up. Standard retention. DO NOT CUT White Oak. Place retention in a manner to help facilitate future planting operations if needed. Retention should incorporate healthy, large crowned oaks and pine. Allow whole tree skidding and limit harvest to Nov 1 - April 1 to ensure dormancy in residual oak saplings. Place seedling/sapling protection specs into sale.</p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory); SitePrep, Trenching; SitePrep, Roller Chopping; Planting, Initial Plant; Pesticide, Skidder -</p> <p><u>Treatments:</u> Site Prep; Pesticide, Skidder - Release</p> <p><u>Acceptable Regen:</u> Expect pockets of heavier advanced oak regen. Can included a component of Aspen and mixed conifers. If the stand fails regen survey, work with TMS to re-evaluate areas of the stand that would benefit from post harvest treatments.</p> <p><u>Other Comment:</u> An Equestrian and hiking trail is nearby so appropriate signage and protection specifications will apply. Apply wildlife shrub protection specs into sale. Exclude conifer pocket in the SE portion of stand due to favored habitat of nearby MNFI hit.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>										
46 52003046-Cut	25.6	4125 - Black, N. Pin Oak	Sawtimber Medium	95	51-80	Harvest	Overstory Removal	4319 - Mixed Upland Forest	Even-Aged	No
<p><u>Prescription</u> Remove all trees 6" dbh and above. Mark to leave clumps of 3-5 mature mixed pine and oak at a rate of 1 clump per 5 acres for added diversity, seed and mast production. Add recreation trail protection specs as well as seedling/sapling protection specs into sale.</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable Regen:</u> Any combination of oak, aspen, red maple, birch and mixed conifers that meet minimum stocking requirements.</p> <p><u>Other Comment:</u> Ensure Enbridge Energy is contacted if haul route is along or crossing pipeline (stand 25).</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>										

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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
64 52003064.1-Cut	43.1	4130 - Aspen	Poletimber Well	48	81-110	Harvest	Clearcut with Retention	4130 - Aspen	Even-Aged	No
<p><u>Prescription Specs:</u> Final harvest utilizing minimum (3-5%) retention. Retention has been identified in the remaining parent stand. Add Oak Wilt and Drum Log specifications to sale.</p> <p><u>Next Step Treatments:</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Acceptable Regen:</u> Moderately to fully stocked aspen stand with a minor component of red maple, mixed conifers and oaks.</p> <p><u>Other Comment:</u> Survey request will be needed to put a working corner in near Gee Lake.</p> <p><u>Site Condition</u> Survey Needed</p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>										
64 52003064-Cut	22.2	4130 - Aspen	Poletimber Well	48	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	No
<p><u>Prescription Specs:</u> Final Harvest 2" DBH and up. Minimum retention. Retention has already been identified within the parent stand. Add drum log specifications and oak wilt specs into sale.</p> <p><u>Next Step Treatments:</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Acceptable Regen:</u> Moderately to fully stocked aspen stand with a minor component of red maple, oak, and mixed conifers.</p> <p><u>Other Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>										
66 52003066-5-Removal	64.9	4122 - Oak, Pine	Sawtimber Medium	90	51-80	Harvest	Overstory Removal	4199 - Other Mixed Upland Deciduous	Even-Aged	No
<p><u>Prescription Specs:</u> Remove older cohort and canopy trees over 6" DBH. Mark to leave a clump of 3-5 mixed canopy pines and oaks at a rate of 1 per 5 acres for added diversity, mast and seed production. Sapling/seedling protection specification should be put into place.</p> <p><u>Next Step Treatments:</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Acceptable Regen:</u> Mixed deciduous such as aspen, red maple, mixed oak, birch or cherry with a component of conifers. Expect aspen and red maple to dominate some areas. If Oak is dominating, that is OK and we can accept the regen.</p> <p><u>Other Comment:</u> Utilities/Powerlines are in the vicinity. Use appropriate protection specifications where necessary.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>										

Total Treatment Acreage Proposed: 372.1

Report 4 – Site Conditions

Gaylord Mgt. Unit
Trevor Kubitskey : Examiner

Compartment: 3
Year of Entry: 2022



Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions						
		With Condition	Not Available		2I	5B	5C	2G	3J	5E	
355	261	91	4	Aspen	43		47				4
10	10	0	0	Bog							
33	33	0	0	Herbaceous Openland			0				
73	67	4	2	Jack Pine		4					2
67	67	0	0	Low-Density Trees							
18	10	0	8	Lowland Conifers				8			
14	14	0	0	Lowland Shrub							
13	0	0	13	Lowland Spruce/Fir				13			
29	29	0	0	Marsh							
208	208	0	0	Mixed Upland Deciduous			0				
97	64	21	13	Natural Mixed Pines			21		8	5	
359	195	165	0	Oak	33		131				
69	69	0	0	Red Pine							
3	0	0	3	Tamarack				3			
9	9	0	0	Upland Conifers							
52	52	0	0	Upland Mixed Forest							
41	41	0	0	Urban							
17	17	0	0	Water							
11	11	0	0	White Pine							
1,479	1,156	280	43	Total Forested Acres	77	4	199	24	8	11	
	78%	19%	3%	Relative Percent							

**Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
Retention from the final harvest of stand 6.							

Report 4 – Site Conditions



Gaylord Mgt. Unit

Trevor Kubitskey : Examiner

Compartment: 3

Year of Entry: 2022

2	Unavailable	5E: Long-Term Retention	5	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments: Stream flowing into Caulkins Lake. Long term retention for the entirety of stand 10.							
3	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Adjacent to Gee Lake. Would be difficult to harvest majority of stand with any BMP buffers added.							
6	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Healthy, mature stand. Good mast production.							
7	Available	2I: Survey needed	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Retention.							

Report 4 – Site Conditions



Gaylord Mgt. Unit

Trevor Kubitskey : Examiner

Compartment: 3

Year of Entry: 2022

9	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	23	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Hold for more understory growth.							
10	Available	5B: Maintain for regeneration purposes	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Let convert naturally. Low volume of overstory pine.							
11	Available	2I: Survey needed	43	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Survey needed for southern half of stand.							
12	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	104	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
13	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
14	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Wet areas within the stand.							

Report 4 – Site Conditions

Gaylord Mgt. Unit
Trevor Kubitskey : Examiner

Compartment: 3
Year of Entry: 2022



15	Available	2I: Survey needed	23	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Could not locate north subdivision plat corner.							
16	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
17	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	48	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
18	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	21	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Mgt. Unit

Compartment: #Type!

Year of Entry:



Report 5 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

SCA Name	SCA Category	Detail Type	Recommendation	Acres
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Comments



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

ERA = Ecological Reference Area
HCVA = High Conservation Value Area
SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																		
1	310 - Herbaceous Openland	Nonstocked	1.2		Unspecified		Gas Well site. Muskegon Development Permit #43153																																																		
2	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	6.1	14	Immature	N/A	Old stand notes from stand 3 indicate this was harvested along with stand 64 in comp 1 to the north in 2006 and left to regenerate naturally. Jack pine has taken off well, with it on the cusp of a small pole stand. Intermixed is red maple, aspen and oak. Single stem oak establishment seems to be doing well.																																																		
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3	42110 - Planted Red Pine	Poletimber Well	54.7	33	111-140	N/A	Fairly similar throughout with some rolling topography. Scattered pockets of less dense, more open growing red pine. Areas of small logs, but overall mid pole sized stand. Most overstory oak are within clusters with some mortality taking place. Higher component of oak in eastern portion of stand. Overall, 2-3 stick red pine.~ B.A 131 sq ft.																																																		
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4	4199 - Other Mixed Upland Deciduous	Sapling Poor	52.2	5	Immature	N/A	Stand was originally planned for a re-plant, but varianced due to a MNFI rare species hit. A mixture of northern pin and black oak in the northern portion of the stand with higher aspen and red maple component in southern half. ORV trail runs throughout the stand. Planted 75 crabapple, 30 white oak, and 30 red oak summer 2018 with the majority still alive. Signs of elk browse on some of the oaks. Larger diameter red pines left in the southern half, focused around ORV trail. Sale 52-006-12, completed 11/2015.																																																		
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5	310 - Herbaceous Openland	Nonstocked	1.1		Unspecified		Gas Well site. Muskegon Development Permit #45858																																																		
6	4130 - Aspen	Sapling Well	20.1	5	Immature	N/A	Stand was cut in 2015 a apart of 52-006-12 along with the adjacent stand 4. Small lowland brush pockets in the south along private line. Tree length skidding was done to try to promote natural jack pine see dispersal in unit south of two track. Relic red and white pines scattered across stand. Very similar stand structure to south part of stand 4.																																																		
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																															
8	42120 - Planted Jack Pine	Poletimber Well	54.0	44	81-110	N/A	Overall mid pole sized stand. Rolling topography. Does contain areas of log sized jack pine that are beginning to die out releasing the oak underneath. Scattered clones of poor quality aspen in openings along with small kettle holes. ORV trail runs through stand. ~ BA 98 sq ft. Majority aspen west of two track.																																																															
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9	310 - Herbaceous Openland	Nonstocked	1.3		Unspecified		Gas Well site. Muskegon Development Permit #43202																																																															
10	42290 - Natural Mixed Pine	Sawtimber Medium	40.6	118	51-80	N/A	This stand fairly variable and is within a flood plain; currently dry on edges with flowing/standing water in the central portion. Selection type harvest completed in 5/2016. Aspen, Red maple, Balsam Fir, Black Spruce, Jack Pine and Paper Birch removed along with marked to cut White and Red Pine logs. BA variable due to excluded areas during harvest because of wet conditions. Very good looking stand. NE area contains the majority of the overstory pines. Pockets of significant oak regen as well as some good natural pine regen.																																																															
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11	4130 - Aspen	Poletimber Well	3.8	44	81-110	N/A	Small acreage, fair quality Bigtooth aspen clone with a small inclusion of quaking aspen that appears to have hypoxylon canker. Some splitting occurring in the boles of the bigtooth. South portion of stand contains some larger diameter pin oaks that seem healthy. Oak through all size classes doing well in this stand. Brushy type appearance on the edges.																																																															
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12	6121 - Tamarack	Poletimber Well	3.2	75	51-80	N/A	Unique Tamarack stand containing tag alder inclusions.																																																															
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14	4131 - Aspen, Oak	Sapling Well	23.7	16	Immature	N/A	Stand was harvested in 2004 leaving log size oak, red pine and spruce mostly on the ridges. Lowland pockets were protected during harvest. Advance regeneration from the harvest has led to areas of pole sized oak, aspen and some maple. Minor conifer components in areas. High beaver activity found within the stand resulting in loss of aspen. A3, O2. Rolling topography. Significant deer browse present on red maple.																																																											
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15	4310 - Pine, Oak Mix	Sawtimber Medium	39.4	94	51-80	N/A	Shelterwood cut in 2016 reducing B.A to 30-40 sq ft and leaving all Red and White Pine as well as any good formed, healthy oaks. Species removed were mostly, aspen, red maple, jack pine and a minor component of oak. Northern portion of stand is more conifer dominant with the higher composition of aspen and red maple from the new age class. Southern portion where it transitions to more oak, there is less sub-canopy growth in the new age class and a large presence of white pine establishment with varying sizes of saplings. Oak and red maples throughout stand under 5-6 ft have been hit hard with browse. Decline in some oaks is present.																																																											
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16	330 - Low-Density Trees	Nonstocked	10.6		Unspecified	No	West side of stand may have been old landing for adjacent timber sale (stand 15). Scattered oak as well as jack pine. Scattered brush piles from yard trimmings and/or trail maintenance. East side contains some rolling slopes.																																																											
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17	622 - Lowland Shrub	Nonstocked	10.1	0	Unspecified	No	Surrounds beaver flooding. Signs of increased water levels flooding out some species. Standing dead elm and ash present mostly on the east portion of stand. Tag alder and mats of sedge and grasses cover the majority of the area. Smaller pole/sap spruce, birch, tamarack found mostly adjacent to stand 81.																																																											
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18	3301 - Low Density Deciduous Trees	Nonstocked	41.5		Unspecified	Managed Opening	Multiple MNFI hits. Managed pine barren. Last RX Burn Completed 4/29/16. Also contains forested segment between gas facility and Old State containing mostly scattered white, red and jack pine.																																																											
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19	500 - Water	Nonstocked	11.6		Unspecified	No	Beaver Flooding. Series of Beaver dams on south side of stand. Shares water with the West Branch of Big Creek.																																																											



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																																
20	110 - Low Intensity Urban	Nonstocked	1.8		Unspecified		Enbridge Facility.																																																																
21	4125 - Black, N. Pin Oak	Sawtimber Medium	10.0	94	51-80	N/A	Looks stagnant. Stand appeared to be left out of the Shelterwood done in stand 15 to the west. Canopy Oaks showing some decline, with red maple, cherry and some aspen coming up in canopy gaps. Old Notes indicated that it was left for travel, aesthetic influence and close proximity to the north shore of Caulkins Lake. Good conifer influence throughout. The merchantable aspen spotty and of poor quality.																																																																
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22	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	52.7	38	1-50	N/A	Overall large sap/small pole. Similar to stand 31 to the east, except no supercanopy oaks. Harvested in 1982. Stump sprout pin oak regen with intermixed aspen clones and upland brush openings. Some scattered ~16" Red Pine. Majority of Oak on cusp of small pole sizes with areas of merchantable stems (1 stick). Aspen clones as well as red maple pockets contain merchantable stems. Old Railroad grade runs through stand.																																																																
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23	4199 - Other Mixed Upland Deciduous	Sapling Medium	7.1	5	Immature	N/A	Harvesting completed in 2015, leaving all Red and White Pine. Majority of all residual pine left in southwest corner of stand. West side of stand contains better regen as well as less browse.																																																																
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24	3301 - Low Density Deciduous Trees	Nonstocked	9.1		Unspecified	Managed Opening	Managed pine barren. Rx Burn completed 4/29/2016. Most aspen has been killed during the burn, cherry and oak saplings thriving. North side of stand contains small portion of the parent stand (pin oak, aspen, red maple, cherry and mixed jack/red pine).																																																																
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25	310 - Herbaceous Openland	Nonstocked	4.3		Unspecified	No	ENBRIDGE LINE 5 Pipeline ROW. Extends through compartment.																																																																



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26	310 - Herbaceous Openland	Nonstocked	1.2		Unspecified		Gas Well site. Muskegon Development permit #43158																																																												
27	4130 - Aspen	Poletimber Well	17.1	38	81-110	N/A	Multi-polygon stand containing fair quality aspen as well as oak clumps scattered throughout. Heavy oak component through sub-canopy. Pine component in the south portion of stand. Lowland inclusions along the pipeline as well as in the southeast portion of the stand.																																																												
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28	4126 - White, Black, N. Pin Oak	Sawtimber Well	6.5	85	111-140	N/A	Originally part of stand 62 but this portion was not treated. Quality logs of mixed oak, red maple and mature aspen. Very limited regen underneath. Would benefit from treatment to promote new growth. Aspen and oak are both healthy, some minor decline. Average BA ~133 sq ft.																																																												
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29	4131 - Aspen, Oak	Poletimber Medium	5.8	55	81-110	N/A	Poor to fair quality aspen stand. There are a few pockets of small log sized aspen but mostly poles. Very good oak component throughout canopy layers. mortality in aspen. Minor conifer component. ~82 sq ft																																																												
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30	122 - Road/Parking Lot	Nonstocked	30.3			No	Several buried gas pipelines along Old State Rd.																																																												
31	4125 - Black, N. Pin Oak	Poletimber Well	38.0	38	1-50	N/A	O3,A1, with an O7 component. This stand was part of the Big Creek Burn and then salvaged in 1982. Stand has notable advanced regeneration of both deciduous and coniferous species. Featured stand is the 37 y.o large sap, small pole class. Pockets of clumps, as well as single stem oak regeneration in present throughout. Inclusions of aspen and red maple. Supercanopy pin oak is healthy but showing signs of decline. Northern portion of stand contains very few supercanopy oak. Old railroad grade and Shore to Shore tail runs through stand.																																																												
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments					
32	622 - Lowland Shrub	Nonstocked	3.9		Unspecified	No	Stand has been changed to non-forested due to less than 25% canopy cover of swamp conifer trees.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								Tag Alder	High	5 - 10 feet	Tall Shrub	
								Paper Birch	Medium	Variable	Sapling	
								Cattail spp.	Low	Unspecified	Non-Wood	
								Tamarack	Low	>20 feet	Pole	
Balsam Poplar	Low	>20 feet	Pole									
Black Spruce	Low	>20 feet	Pole									
33	623 - Emergent Wetland	Nonstocked	29.0		Unspecified	No	Edges contain mostly spruce, alder and tamarack. Majority water with scattered snags throughout. Higher density of trees in south portion near private.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								Tag Alder	Medium	5 - 10 feet	Tall Shrub	
								Tamarack	Low	>20 feet	Pole	
Black Spruce	Low	>20 feet	Pole									
34	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	14.7	15	Immature	N/A	Old Stand data didn't show this was a plantation. Stand was harvested in 2005 and trenched and planted in spring of 2006. Rows are not present in the west side of the stand, and the majority of stand has a very good oak component throughout. Some pockets of aspen, cherry and red maple found throughout as well. Some advanced oak regen found.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Red Maple	5	Sapling	1	15
								Quaking Aspen	5	Sapling	1	15
								Northern Pin Oak	10	Sapling	1	15
								Jack Pine	75	Sapling	1	15
35	4130 - Aspen	Poletimber Well	9.1	24	51-80	N/A	Stand harvested in 1996 removing all merchantable aspen. Balsam fir was protected. Overall pole sized stand with pockets of sapling as well as log sized aspen. Overstory oak and pine healthy.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Red Maple	10	Sapling/Pole	4	
								Northern Pin Oak	5	Log/Pole/Sap	14	
								White Pine	5	Log/Pole	14	
								Red Pine	1	Log	15	
								Bigtooth Aspen	70	Sapling/Pole	4	24
								White Oak	5	Log	12	
								Balsam Fir	4	Pole/Sapling	5	
								Sub-Canopy Species	Density	Avg. Height	Size	
								Northern Pin Oak	Low	5 - 10 feet	Sapling	
Balsam Fir	Medium	5 - 10 feet	Sapling									
White Pine	Low	5 - 10 feet	Sapling									
Jack Pine	Low	10 - 20 feet	Sapling									
Witch Hazel	Low	< 5 feet	Tall Shrub									
Hawthorn (spp.)	Trace	< 5 feet	Tall Shrub									



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36	6124 - Lowland Spruce-Fir	Poletimber Well	7.8	95	51-80	N/A	Contains minor upland inclusion to the south with mixed pine and oak pole timber. Appears to be a good wildlife stand. There is merchantable timber within the stand; however standing water is present in most portions. Quality cedar within the stand with a thick fir understory. Alder and cattails make up most of the understory within canopy openings.																																																																	
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37	4310 - Pine, Oak Mix	Sawtimber Poor	2.7	86	51-80	N/A	Stand was treated in 2005 removing all red maple, jack pine, and aspen with oak marked to cut. The aspen component has fallen out of the stand except on the edges, with red maple and jack pine failing to adequately regenerate. Fair amount of oak regen in pockets. Appears to be more of an aesthetic stand. Large diameter red pine along with clumps of small log sized, poor quality oak. Red maple that has come up has been browsed significantly. Canopy percentage changed due to oak mortality.																																																																	
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38	500 - Water	Nonstocked	5.0		Unspecified	No	Mostly exposed water. Some vegetation on edges.																																																																	
39	42110 - Planted Red Pine	Poletimber Well	11.5	60	141-170	N/A	A third row thinning was completed in 2005. Rolling terrain with oak and aspen left in uncut rows. Oak decline is present in stand. Majority of oak is dead or currently declining. Doesn't appear to be affecting adjacent stands. Red Pine is healthy. Better quality and larger diameters in the west portion of stand. Avg BA ~142.5 sq ft.																																																																	
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40	429 - Mixed Upland Conifers	Sawtimber Well	9.3	80	81-110	N/A	Mixed upland stand with portions leading down into a lowland type. Pockets of aspen are reaching over-maturity, as well as some areas of decline in balsam. Very nice red pine and white pine XLogs in stand. High signs of wildlife use throughout the stand. Rec. trails runs through and adjacent to stand. ~86 sq ft																																																																	
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41	310 - Herbaceous Openland	Nonstocked	4.5		Unspecified	No	Pipeline ROW																																																																	



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments	
42	4122 - Oak, Pine	Sawtimber Poor	23.3	85	51-80	N/A	Harvest completed in 2005 removing all aspen, red maple and marked to cut pine and oak. Fairly good regen in areas of red maple, oak and aspen. BA swings were fairly variable with the average of 51 sg ft. Older age class was targeted during harvest, with the current age class being around 85 y.o. Inclusions of fir/spruce adjacent to Q type to north.	
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		
Black/Red (Hybrid) Oak		50	Log	14	85	Red Maple		
White Oak		10	Log	12		Northern Pin Oak		
White Pine		20	Log/Pole	10		Balsam Fir		
Red Pine		20	Log/XLog/Pole	13	92	White Pine		
						Paper Birch		
						Quaking Aspen		
						Density		
						Avg. Height		
						Size		
43	4125 - Black, N. Pin Oak	Sawtimber Medium	35.5	86	51-80	N/A	Selection cut completed in 2005 with main canopy O8 and scattered pine and other deciduous species. Mostly Red maple, pin oak, & aspen sprouting from recent cut with a minor component of conifer regen as well. Significant browse in red maple and oak under 5/6 feet. Small inclusion of mixed conifer in southeast portion. Decline in some oak present. NOTE: Small private parcel was noted during boundary verification and was added into MiFI 10/29/19.	
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		
White Oak		3	Log	12		Red Maple		
Northern Pin Oak		70	Log/Pole/XLog	14	86	Northern Pin Oak		
White Pine		13	Log/Pole/XLog	13		Balsam Fir		
Red Pine		10	Log/Pole	12		White Pine		
Jack Pine		2	Log	12		Witch Hazel		
Paper Birch		2	Pole/Log	9		Quaking Aspen		
						Jack Pine		
						Paper Birch		
						Density		
						Avg. Height		
						Size		
44	6225 - Bog	Nonstocked	7.2		Unspecified	No	Blueberry, leatherleaf bog with pockets of black spruce and tamarack in the center. MNFI hits of Secretive Locust (<i>Appalachia arcana</i>). Primary habitat of open leatherleaf - dominated sphagnum bogs surrounded by jack pine as well as openings with mixed pine and aspen.	
Sub-Canopy Species		Density	Avg. Height	Size				
Blueberry/Bilberry/Cranberry		High	< 5 feet	Tall Shrub				
Leatherleaf		Medium	< 5 feet	Tall Shrub				
Black Spruce		Low	10 - 20 feet	Pole				
Tamarack		Low	10 - 20 feet	Pole				
45	42290 - Natural Mixed Pine	Poletimber Well	48.4	39	81-110	N/A	Appears to be a natural stand of jack pine that had regenerated from a fire in 1981. Some row appearance; could have been a plantation that was burnt over. South portion contains some log sized red and white pine that appear to have been planted but no records were found. Jack pine as well as scattered aspen clones throughout along with some pin oak, and red maple coming up between the overstory pines in the south. Some minor topo in the southern half, as well as a small blueberry bog. Old Notes 2010: Mixed stand regenerating from a fire that occurred in 1981, then salvage cut. Stand is a mix of natural jack pine, aspen, and n. pin oak. Minor component of red pine poles, small logs south of gas well site. Minor upland brush inclusions.	
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		
Red Maple		5	Pole/Sapling	5		Northern Pin Oak		
White Oak		2	Sapling	3		Witch Hazel		
Quaking Aspen		8	Pole/Sapling	5		Black Cherry		
Northern Pin Oak		10	Pole/Sapling	6		Hawthorn (spp.)		
Jack Pine		55	Pole/Sapling	6	39	White Pine		
Black Cherry		2	Sapling	3				
Red Pine		8	Log/Pole	10				
White Pine		10	Pole/Log	9	62			
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																																						
46	4125 - Black, N. Pin Oak	Sawtimber Medium	26.3	95	51-80	N/A	Shelterwood cut completed in 2005. Mixed oak, aspen, red maple as well as some pine regenerating in understory. Browse present on oaks and maples. Larger canopy gaps and old skid trails contain the majority of the regen. Higher conifer component west side of stand across two-track. Overall avg BA ~ 71.																																																																						
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47	310 - Herbaceous Openland	Nonstocked	1.1		Unspecified		Gas Well Site. Muskegon Development. Permit # 43156																																																																						
48	310 - Herbaceous Openland	Nonstocked	1.1		Unspecified		Muskegon Development Gas Well. Permit #46468																																																																						
49	4199 - Other Mixed Upland Deciduous	Poletimber Well	19.9	80	81-110	N/A	Old Notes indicated a mixed stand influenced by adjacent harvests. SW portion contains Log oak. Majority is mixed red maple, oak, aspen stand with some pockets of aspen declining. Some small poles but overall large pole/small log . Average BA ~95 sq ft. Old Rail Road grade present. O8, A6, M6.																																																																						
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51	42200 - Natural White Pine	Sawtimber Well	3.1	93	51-80	N/A	Transition type stand that slopes down into Z-type to south. Conifer dominated with scattered oaks, aspen and red maple throughout. Varying age and size classes. Scattered white pines in the central portion with mixed conifers on the edges. Minor lowland influences in east and west edges. 13 yr. old aspen stand that is primarily saps, but developing into 1 stick aspen. 5% of overstory canopy is residual oak, red maple, & white pine left. Lowland, water influence to south of stand with some lowland conifers mix.																																																																						
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52	310 - Herbaceous Openland	Nonstocked	1.2		Unspecified		Gas Well Site. Muskegon Development. Permit #43155.																																																																						



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments	
53	4130 - Aspen	Poletimber Well	66.6	23	1-50	N/A	Stand was harvested in 1997. Small pole, large sap sized stand. Inclusions of open, upland brush type openings containing white, jack and red pine with some cherry brush. Central portion contains XLog red and white pine with a low quality aspen, jack pine mixed opening. Some rolling hills, quality better in east and west portions of stand.	
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		
Red Maple		9	Sapling/Pole	4	23	Hawthorn (spp.)		
Quaking Aspen		32	Sapling/Pole	4	23	Jack Pine		
Northern Pin Oak		17	Sapling/Pole	2	23	Serviceberry (Juneberry)		
Jack Pine		3	Sapling	2	23	Balsam Fir		
Black Cherry		4	Sapling/Pole	3	23	Northern Pin Oak		
Bigtooth Aspen		32	Pole/Sapling	5	23	White Oak		
Paper Birch		1	Sapling/Pole	3				
Red Pine		1	XLog	18				
White Pine		1	XLog	20				
54	6225 - Bog	Nonstocked	1.1		Unspecified	No		Blueberry, leatherleaf bog. MNFI hits of Secretive Locust (Appalachia arcana). Primary habitat of open leatherleaf - dominated sphagnum bogs surrounded by jack pine as well as openings with mixed pine and aspen.
Sub-Canopy Species		Density	Avg. Height	Size				
Blueberry/Bilberry/Cranberry		High	< 5 feet	Tall Shrub				
Leatherleaf		High	< 5 feet	Tall Shrub				
Sphagnum Moss		Medium	Unspecified	Non-Wood				
55	4125 - Black, N. Pin Oak	Sawtimber Medium	3.4	88	51-80	N/A	Unique ridge containing mature oaks. Variable red maple and oak saplings throughout. No cutting records or history on this stand was found. Appears to have been treated similarly as the other stands in the area with a salvage from the fire that went through in the past. Some of the less steeper areas appear to have been cut along with adjacent stands containing aspen, red maple saps.	
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		
Red Maple		10	Log/Pole	10		Red Maple		
Black/Red (Hybrid) Oak		68	Log	12	88	Black/Red (Hybrid) Oak		
White Oak		15	Log/Pole	10		Red Pine		
Red Pine		2	Log	16		Hawthorn (spp.)		
Quaking Aspen		5	Pole/Sapling	6		White Oak		
56	42220 - Natural Jack Pine	Sawtimber Poor	4.3	65	51-80	N/A	No records found on stand. Old Notes indicated that this was a natural jack pine stand. Fair quality jack pine/red pine logs. Some decline in jack pine with a thick understorey of mixed oak. Some red maple, aspen coming up in canopy gaps.	
Canopy Species		% Cover	Size Class	DBH	Age	Sub-Canopy Species		
Quaking Aspen		5	Pole	5		Northern Pin Oak		
Red Pine		20	Log	14	70	White Oak		
Jack Pine		75	Log	10	65	Serviceberry (Juneberry)		
						White Pine		
						Hawthorn (spp.)		
						Red Maple		



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments		
57	4130 - Aspen	Poletimber Well	66.8	39	81-110	N/A	Part of a fire in 1981, and then salvaged shortly after. Majority healthy aspen with scattered oak and red pine logs. Fair amount of single stem oak saplings throughout. Size is relatively variable with pockets of small pole varying up to small log. Northern/NE portion does contain minor aspen decline, but has a good oak component coming up in place of the dying aspen. A6, O3 with R7 & O8		
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
	Northern Pin Oak	5	Pole/Sap/Log	5		White Oak	Low	10 - 20 feet	Sapling
	White Oak	2	Pole/Sap/Log	6		Northern Pin Oak	Medium	5 - 10 feet	Sapling
	Quaking Aspen	85	Pole	6	39	Jack Pine	Low	10 - 20 feet	Sapling
	Jack Pine	2	Pole	7		White Pine	Low	< 5 feet	Sapling
	Red Maple	5	Pole/Sapling	5		Red Pine	Low	5 - 10 feet	Sapling
	Red Pine	1	Log	14					
58	4199 - Other Mixed Upland Deciduous	Sapling Medium	13.9	4	Immature	N/A	Harvest completed in 2015. Scattered Red and White Pine left as well as a few White oak. Some pockets of advanced regen. Overall most maple, oak and aspen past browse height; however those under 5-6' show significant browse. Rolling topo. Stand should have no problem pushing past browse height. Old stand notes indicate parent stand was mature aspen and jack pine with mortality showing.		
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
	Red Maple	30	Sapling	1	4	Northern Pin Oak	High	< 5 feet	Seeding
	White Oak	2	Log	14		White Oak	Medium	< 5 feet	Seeding
	Quaking Aspen	30	Sapling	1	4	White Pine	Low	< 5 feet	Seeding
	Northern Pin Oak	30	Sapling	1	4	Red Maple	Medium	< 5 feet	Seeding
	Red Pine	2	Log	18					
	Black Cherry	4	Sapling	1					
	White Pine	2	Log	14					
59	310 - Herbaceous Openland	Nonstocked	1.4		Unspecified		Muskegon Development Gas Well. Permit #43147		
60	4310 - Pine, Oak Mix	Poletimber Medium	9.6	39	1-50	N/A	Upland mix of brushy oak and jack pine. Scattered aspen clones along the edges. Some of the more mature jack pine are falling out giving way to oak.		
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
	Northern Pin Oak	50	Pole/Sapling	5	39	Northern Pin Oak	Medium	5 - 10 feet	Sapling
	Red Pine	2	Log	12		White Oak	Low	5 - 10 feet	Sapling
	Jack Pine	40	Pole	6		White Pine	Low	Variable	Sapling
	Quaking Aspen	5	Pole/Sapling	5		Hawthorn (spp.)	Trace	< 5 feet	Tall Shrub
	White Pine	3	Pole/Sapling	5		Black Cherry	Medium	5 - 10 feet	Sapling
61	6225 - Bog	Nonstocked	1.7		Unspecified	No	Blueberry Bog.		
62	4125 - Black, N. Pin Oak	Sawtimber Poor	23.4	95	1-50	N/A	Salvaged 1981 from fire. Overstory still healthy, with pockets of the younger age class merchantable. Fair oak regen underneath but mostly aspen with intermixed red maple. Some supercanopy oaks and pine have significant fire scars. Does appear in some areas that there is an additional age class (estimate 12-13 y.o). Small piece of the stand to the west has a higher basal area of overstory oaks and pines (100 sq ft).		
	Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
	Black/Red (Hybrid) Oak	55	Log/XLog	16	95	Red Maple	Low	5 - 10 feet	Sapling
	Quaking Aspen	10	Pole	5	39	White Oak	Low	5 - 10 feet	Sapling
	Red Pine	10	Log	18	95	Northern Pin Oak	Medium	10 - 20 feet	Sapling
	Red Maple	10	Pole/Sapling	5		White Pine	High	Variable	Sapling
	White Oak	5	Log/Pole	14		Red Pine	Low	< 5 feet	Seeding
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63	310 - Herbaceous Openland	Nonstocked	1.1		Unspecified		Gas Well Site. Muskegon Development. Permit # 43151																																																																			
64	4130 - Aspen	Poletimber Well	115.8	48	81-110	N/A	Overall good aspen stand. Majority healthy with some small pockets of declining aspen with oak coming up in it's place. Scattered pine pockets along with some scattered oak. Higher density of oaks found near south property line that were left from buffering private line.																																																																			
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65	310 - Herbaceous Openland	Nonstocked	1.0		Unspecified		Muskegon Development Gas Well. Permit #43146																																																																			
66	4122 - Oak, Pine	Sawtimber Medium	169.3	90	51-80	N/A	Large select/shelterwood prep cut completed Oct. 2004 with varying treatments in areas of the stand. Density varies heavily throughout with higher BA's in the south near Gee Lake as well as within Pine pockets. The scattered pine pockets contain good quality logs. Stand is overall healthy with very minimal oak declining. New age class is recruiting well. Few areas contain log sized aspen that were not harvested during the cut in 2004 in which contain less understory development than that of the majority of the stand. West finger along with the southern portion of stand contain better overall regen.																																																																			
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67	310 - Herbaceous Openland	Nonstocked	1.2		Unspecified	No	Muskegon Development Gas Well. Permit # 43154																																																																			
68	310 - Herbaceous Openland	Nonstocked	1.6		Unspecified	No	Small marsh/wetland inclusion that was protected during adjacent harvest.																																																																			
69	4131 - Aspen, Oak	Sapling Medium	7.6	4	Immature	N/A	Harvested in 2016. Some patchy areas, but fair regeneration of aspen and red maple with a minor conifer component.																																																																			
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70	310 - Herbaceous Openland	Nonstocked	2.4		Unspecified		Muskegon Development Gas Well. Permit #43150. Expanded for use as landing.																																																																			



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71	310 - Herbaceous Openland	Nonstocked	1.1		Unspecified		Muskegon Development Gas Well. Permit #43159																																																											
72	122 - Road/Parking Lot	Nonstocked	5.4		Unspecified	No	Meridian Line R.O.W.																																																											
73	42200 - Natural White Pine	Sawtimber Poor	8.3	75	51-80	N/A	Stand was select cut in 2015-2016 removing all red maple, aspen and select pine and oak. Original white pine age class appeared to be removed with last harvest, leaving the younger age standing (~75 y.o). Residual oak healthy. Good conifer and red maple regen. Most oak establishment is on edges of two-track.																																																											
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74	310 - Herbaceous Openland	Nonstocked	1.0		Unspecified		West side of stand may have been old landing for adjacent timber sale (stand 15). Scattered oak as well as jack pine. Scattered brush piles from yard trimmings and/or trail maintenance. East side contains some rolling slopes.																																																											
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76	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	56.3	39	81-110	N/A	Mixed stand naturally regenerating from a fire in 1981, then salvaged. Scattered aspen clones are of fair to good quality while the rest of the stand is mixed jack pine, and oak. Some heavier conifer influence near the Q type as well as in the north side of the stand near stand 33. Scattered XLog / Log white pine and red pine are in this area. Shore to Shore Trail runs through stand.																																																											
77	4130 - Aspen	Sapling Well	19.0	4	Immature	N/A	Harvest completed in 2016. Split out from stand 10 due to stand composition, structure and treatment type. Few scattered large crowned oaks left on east side of stand along with some scattered log sized red pine. A few very small lowland pockets scattered on east side as well. Good aspen, red maple and oak regen. Old notes indicated that the previous Aspen stand had evidence of hypoxylon canker.																																																											



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78	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	8.2	95	81-110	N/A	Very nice white pine development throughout. North edge between stand 73 and Gee Lake was left as a riparian buffer from the harvest in stand 73. The southern portion east of Gee Lake has a larger deciduous component with no history of management.																																																									
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Bigtooth Aspen	10	Log	12																																																													
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79	330 - Low-Density Trees	Nonstocked	1.3		Unspecified	No	Appeared to have been an old landing from adjacent sale. Natural pine coming up on edges.																																																									
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80	42210 - Natural Red Pine	Sawtimber Well	2.8	76	111-140	N/A	Unique stand that appears to have been untouched from past harvesting. No treatment history, no signs of a thinning. Stand does contain nice red and white pine logs with aspen, red maple and oak coming up underneath. Very little natural pine regeneration. Larger canopy pine seem good for seed source.																																																									
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81	6122 - Black Spruce	Poletimber Well	13.1	90	51-80	N/A	Multi-polygon stand. Wet soils throughout the majority of stand. Overall pole sized stands with pockets of small log sized spruce and tamarack. Some of the Balsam Poplar is dying out with some red maple coming up underneath. Further south in stand becomes wetter with smaller diameters and increased tag alder density.																																																									
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82	6124 - Lowland Spruce-Fir	Poletimber Medium	10.3	73	51-80	N/A	Mixed stand with difficult access. Overall a lowland stand with pockets of upland ridges along with an old railroad grade. The small upland pockets contain jack pine, white pine, red pine, oak saplings and balsam fir. Some mortality along edges in with ash and elm. Pockets of cattails, and sedge mats intermixed with the upland pockets.																																																									
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																											
83	310 - Herbaceous Openland	Nonstocked	1.3	0	Unspecified		Gas Well site. Muskegon Development Permit #43152																																																											
84	4125 - Black, N. Pin Oak	Poletimber Well	23.6	39	51-80	N/A	Split from larger stand due to composition and overall density. Some pockets of fair quality aspen clones with intermixed jack pine. Majority of oak is of stump sprout origin. Some larger oak scattered in southern portion near property line. Majority is merchantable but volume isn't there.																																																											
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90	330 - Low-Density Trees	Nonstocked	4.4		Unspecified	No	West side of stand may have been old landing for adjacent timber sale (stand 15). Scattered oak as well as jack pine. Scattered brush piles from yard trimmings and/or trail maintenance. East side contains some rolling slopes.																																																											
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91	122 - Road/Parking Lot	Nonstocked	3.5	0	Unspecified	No	Caulkins Lake Rd ROW.																																																											